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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,812	12/27/2001	Sylvie Jeannin	US 010717	5510

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EXAMINER	
ZHAO, DAQUAN	

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/029,812	JEANNIN, SYLVIE	
	Examiner	Art Unit	
	Daquan Zhao	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 April 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 9/5/2006 have been fully considered but they are not persuasive.

TTG 10/13/06

On pages 11- 12, applicant argues that Dimitrova et al and Christopher fail to teach a separator which is defined by at least two consecutive scene changes.

In response, the examiner respectfully disagrees. Page 12, lines 5-15 of the specification of the instant application define "two consecutive scene changes" as the following: "That is, part of the MPEG encoding process is the estimation of the motion of fields of luminance from one frame to another. The results of this process are displacement vectors that are use to predict the actual flame to encode. The error between the prediction and the actual flame is expressed using MAD values. At a sharp scene change nearly no good matching macro blocks will be found. Thus, the MAD value at a sharp scene change is much higher than the average MAD value.

If two such consecutive scene changes are detected as described above, then they can be considered as a separator (1) between successive commercials within a commercial break, or (2) between programs and adjacent commercial break. Thereafter, an algorithm for detecting the beginning and ending of a commercial break can be applied to obtain the exact boundaries of the commercial break as described below." Due to the nature of the broadcast stream disclosed by the instant application on page 9, line 20 to page 10, line 15 and figure 3. The present invention relies on the black frames (see figure 3 of the instant application) as the separator "between both (1)

successive commercials within a commercial break, (2) between the end (or interruption) of a program and the beginning of a commercial break, and (3) between the end of a commercial break and the beginning (or continuation) of a program." Therefore, the instant application is detecting black frame as a scene change (or scene changes) using the MAD detection method. For example, figure 3 shows a broadcast stream that has programs and commercial separated by two blacks frames ("back-to-back scene cuts"). The instant application detects $S_{x,n}$ using the MAD detection method as the first scene change and detects $S_{y,n}$ using the MAD detection method as a second consecutive scene change using the MAD detection method. The two consecutive scene changes here define black frame(s) between "(1) successive commercials within a commercial break, (2) between the end (or interruption) of a program and the beginning of a commercial break, and (3) between the end of a commercial break and the beginning (or continuation) of a program". Therefore, "two consecutive scene changes" here is indeed a "single scene change" Claim 1 recites: "detecting a plurality of separators base on said generated compressed video data, each of said separators is defined by at least two consecutive scene changes." Therefore, a system detects black frame would satisfy the requirement of claim 1 since "two consecutive scene changes" here does not breathe any life to the claim in light of the specification because the instant applicant is in fact detecting black frame(s).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11, 13-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Dimitrova et al (U.S 6,714,594)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

In regards to claims 1-9, Dimitrova et al teach a method for detecting commercials in a compressed video stream, the method comprising the acts of:

- Compressing video data and generating compressed video data (e.g. Fig. 1, MPEG encoder 100, column 5, lines 9-15);
- Detecting a plurality of separators based on said generated compressed video data, each of said separators is defined by at least two consecutive

scene changes (e.g. abstract, using one or more features as indicators, and column 7, line 50-60);

- Determining the beginning and ending of commercial break among said plurality of separators by comparing a gap between said plurality of separators (e.g. abstracts, and column 11, line 44-59, and column 12, line 15-28).
- Identifying one of said separators as the beginning of a commercial break when the gap between said one separator and a previous separator is greater than a predetermined threshold value (e.g. column 12, line 23-26).
- Identifying one of said separators as the ending of the commercial break when the gap between said one separator and a next separator is greater than said predetermined threshold value (e.g. column 12, line 23-26).
- Said plurality of separators is inserted into said video data at a transmitting source (e.g. column 8, line 10-12).
- Detecting said plurality of separators in said compressed video data includes identifying an abrupt increase in an average Mean Absolute Difference (MAD) value of said generated compressed data (e.g. column 4, line 28-30).
- Detecting said plurality of separators in said compressed video data is performed based on an increasing an average Mean Absolute Difference (MAD) value of said generated compressed data (e.g. column 6, 35-44).

In regards to claims 10-11, 13-18, Dimitrova et al teach an apparatus for detecting commercials in a compressed video stream, comprising:

- A video encoder for receiving uncompressed video data and generating compressed video data (e.g. figure 1, MPEG encoder 100, column 5, line 8-15);
- A detector for detecting a plurality of separators in said compressed video data (e.g. column 6, line 50-53, scene change detector);
- A processor configured to edit said compressed video data by identifying the beginning and ending of a commercial break in said compressed video data (e.g. figure 1, content analyzer 120, column 5, line 48-61, marker result from content analyzer 120 for playback selector 130 to skip commercial); and
- A playback selector for editing said compression video data to skip said commercial break for a subsequent viewing (e.g. figure 1, playback selector 130, column 5, line 56-60).
- A memory for storing said compressed video data with the identification of the beginning and ending of said commercial break (e.g. figure 1, data store 110).
- Compressed video data includes an identifier of a presence of sequence of unicolor frames (e.g. column 8 line 10-12).
- Compressed video data includes an identifier of a transition between a television program and said commercial break (e.g. column 9, table I, and column 10, line1-6).
- Compressed video data includes an identifier of a transition between the successive commercial programs (e.g. column 8, line 10-13, "commercials").

- Compressed video includes an identifier of at least two successive scene cuts (e.g. column 11, line 65-67, series of black frames).
- Detector detects said plurality of separators based on an abrupt change in an average Mean Absolute Difference (MAD) value of said generated compressed video data (e.g. column 6, line 45-53).
- Compressed video data includes at least one of a quantizer scale, motion vector data, bit rate data, a variation of luminance within a frame, a variation of color within a frame, a total luminance of a frame, a total color of a frame, change in luminance between frames, a mean absolute difference, and a quantizer scale (column 5, line 20-34).

2. **Claims 10 and 12** are rejected under 35 U.S.C. 102(e) as being anticipated by Christopher et al (WO 01/35409 A2).

In regards to claims 10 and 12, Christopher et al teach an apparatus for detecting commercials in a compressed video stream, comprising:

- A video encoder for receiving uncompressed video data and generating compressed video data (e.g. figure 1, Packet Video Encoder, 144, and page 6, line 23-27);
- A detector for detecting a plurality of separators in said compressed video data (e.g. page 11, line 27-32 and page 12, line 1-15);
- A processor configured to edit said compressed video data by identifying the beginning and ending of a commercial break in said compressed video data (e.g. page 17, line 14-18);
- A playback selector for editing said compressed video data to skip said commercial break for a subsequent viewing (e.g. page 18, line 1-6); and
- A decoder for generating decompressed video data (e.g. figure 1, Packet Video Decoder 178, and page 7, line 22-23).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.**

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Christopher et al as applied to claims 10 and 12above, and further in view of Harville (US 6,993,245 B1).

Claim 19 is drawn to the apparatus of claim 10, wherein said processor is programmed to identify an indicator of at least two scene cuts in said uncompressed video data and to generate an identifier of the location in a sequence of said compressed video data coinciding with said indicator of at least two said scene cuts.

Christopher et al teach a processor is programmed to identify an indicator of at least two scene cuts in compressed video data (see discussion for claims 10 and 12 above). However, Christopher et al fail to teach the processor is programmed to identify an indicator of at least tow scene cuts in uncompressed video data. Harville teaches a commercial detection method for either compressed or uncompressed audiovisual data (column, line 29-67 and column 6, line 1-32). Therefore, It would have been obvious for one ordinary skill in the art to incorporate the teaching disclosed by Christopher et al with the teaching disclosed by Harville for the same reason disclosed by Harville, which is to use the invention in a wide variety of application and purposes, for example

conventional network television broadcasts, cable television broadcasts, television set-top boxes and digital VCRs (see Harville, column 3, line 11-24).

The Examiner has not changed any grounds of the rejection, as there is no amendment has been made in response the first office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEG § 706.07 (a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136 (a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing data of this action. In the event a first reply is filed within TWO MONTHS of the mailing data of this action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period. Then the shortened statutory period will expire on the data the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing data of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the data of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daquan Zhao whose telephone number is (571) 270-1119. The examiner can normally be reached on M-Fri. 7:30 -5, alt Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Thai Q, can be reached on (571)272-7382. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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